

A review of "Nelson's Gull *Larus nelsoni*"

by Joseph R. Jehl, Jr

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In 1884, H. W. Henshaw described Nelson's Gull *Larus nelsoni* on the basis of a single specimen from the coast of Alaska. Similar in size and coloration to the Glaucous Gull *L. hyperboreus*, it differed in having a slightly darker mantle and lightly patterned primaries. Shortly thereafter, 6 additional specimens were reported. Dwight (1906) reviewed these and agreed with Henshaw that Nelson's Gull appeared to be "a large edition" of Kumlien's Gull *G. glaucoides kumlieni* of the eastern Canadian arctic that deserved species rank. Ridgway (1919) and Rand (1942) also held this view. Dwight (1925) subsequently revised his opinion and considered *nelsoni* as a hybrid between the Glaucous Gull and *L. argentatus vegae*, a dark-mantled, Siberian race of the Herring Gull. As evidence he noted (1925: 250) that specimens were rare and that no two were "marked alike, but the pattern of the primaries is just what would be expected if the black color of *Larus argentatus vegae* were diluted, withdrawn or diminished in varying degree"; and in addition that adult specimens originated (with one exception) in areas "where interbreeding might take place."

Dwight's interpretation has been generally accepted (e.g. AOU 1957). However, Stegmann (1934) argued that Herring and Glaucous Gulls occur without interbreeding in Europe and were unlikely to hybridize in North America; he viewed *nelsoni* as a hybrid, but between Glaucous and Glaucous-winged *L. glaucescens* Gulls. Godfrey (in Höhn 1959: 110) considered it a rare phase of *L. hyperboreus* and doubted the hybrid origin hypothesis.

In studying a probable Glaucous x Herring Gull specimen (San Diego Mus. Nat. Hist. No 37028) from San Diego, California (Jehl 1971), I was able to examine 6 of 7 Nelson's Gulls listed by Dwight (1906) and Saunders (1896), as well as a specimen discussed by Höhn (1959), and to compare them with 3 *hyperboreus* x *argentatus* hybrids from Iceland (U. Mich. Mus. Zool. Nos 212691-212693), 5 putative *glaucescens* x *hyperboreus* hybrids from Alaska (U.S. Nat. Mus. Nos 272288, 287898, 110438, 308933, 448160), and large series of gulls from western North America. Although the majority of Nelson's Gulls are hybrids, in my view, their parentage seems more varied than Dwight thought. In light of widespread and apparently increasing hybridization among gulls in western North America (Williamson & Peyton 1963, Patten & Weisbrod 1974, Strang 1977, Hoffman *et al.* 1978, Spear in press), a re-evaluation of *Larus nelsoni* seems warranted.

SPECIMENS OF NELSON'S GULL

Adults

United States National Museum (USNM) No 97253. Male, collected St Michael, Alaska, 20 June 1880, by E. W. Nelson. The holotype, described in detail by Ridgway (1919: 595-596), may be characterized as a large "white-winged" gull with a distinct grey-brown pattern on the outermost

A. NMC No 42558. B. San Diego Mus. Nat. Hist. No 37028. C. ANSP No 37629.
 D. USNM No 97252 (holotype). E. BMNH No. 51.9.10.2. F. AMNH No 752979.

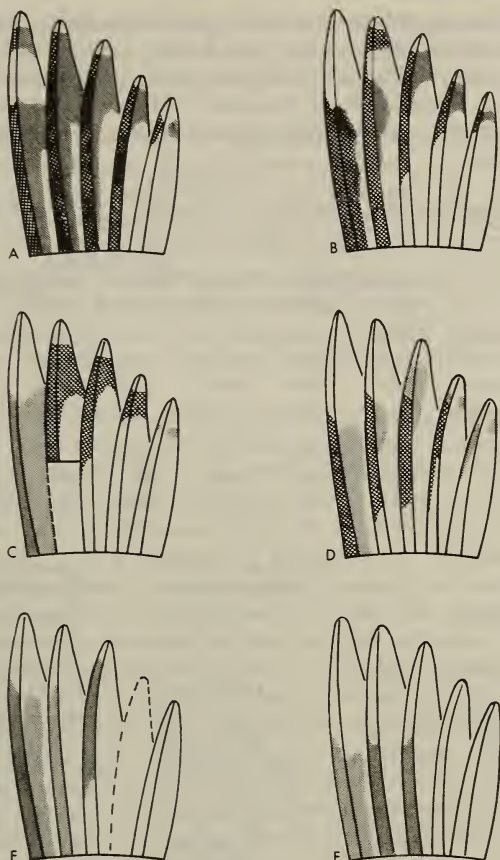


Figure 1. Wing patterns of adult specimens of "Nelson's Gull *Larus nelsoni*".

5 primaries (Fig. 1D) and a mantle that is slightly darker than in *hyperboreus*. Although it falls within the size range of male Glaucous Gulls, its bill is relatively small (Table 1). In all respects it is closely similar to *hyperboreus* x *argentatus* from Iceland and almost certainly represents that cross (Dwight 1925, Ingolfsson 1970). It is unlikely to represent *hyperboreus* x *glaucescens* (Stegmann 1934), as the primary pattern is more extensive and darker grey than in *glaucescens*, and the bill is relatively small. Both *glaucescens* and *hyperboreus* are heavy-billed species.

British Museum (Natural History) (BMNH) No 51.9.10.2. Unsexed, but probably female, collected "N.W. Coast of America or Bering Strait"; date unrecorded, but likely late July, judged by extent of wing moult. This specimen, described by Saunders (1896: 287-288), appears to be a small example of *hyperboreus* with lightly patterned primaries. Although it is within the size range of *L.h. barrovianus* (Manning *et al.* 1956), it is far smaller than the nominate race of that species. Mensurally it falls close to

the mean for *argentatus* females. Smaller than the type of *nelsoni* (probably owing to sexual differences) and having a paler and somewhat reduced primary pattern (Fig. 1E), the specimen closely resembles 2 *argentatus* x *hyperboreus* hybrids from Iceland (UMMZ Nos 212691-212692). However, similar primary patterns appear in *glaucescens* x *hyperboreus* hybrids.

TABLE 1

Dimensions (mm) of *Larus nelsoni*, *L. argentatus*, *L. hyperboreus*, and *L. glaucescens*

	Larus nelsoni						
	USNM 97253 (holotype)	ANSP 37692	NMC 42558	BMNH 10.2	AMNH 795979	AMNH 61536	BMNH 58.21.136.4.3.4
Age/Sex	A/M	A/M	A/M	A/?	A/F	J/F	J/F
Exposed Culmen	57.7	57.9	61.5	51.3	51.0	54.4	49.9
Bill depth, gonyes	20.6	20.9	18.5	17.6	16.0	—	17.9
Bill depth, post nares	20.2	20.1	18.5	16.5	16.8	—	17.9
Wing (chord)	452 ^a	436 ^a	432 ^a	400	410	415	399
Tarsus	72.4	72.8	69.5	66.0	63.5	73.0	64.9
Tail	198	—	189	169	172	176	163
		Larus argentatus ^b		L. hyperboreus ^c		L. glaucescens ^d	
	Sex	Range and mean		Range and mean		Range and mean	
Exposed culmen	M	49-62 (57.0)		55-67 (62.6)		53-64 (57.6)	
	F	49-53 (51.0)		56-61 (58.3)		49-55 (51.6)	
Bill depth, gonyes	M	18-22 (20.3)		21-25 (22.4)		18-22 (20.6)	
	F	17-20 (18.0)		18.5-21 (19.9)		18-20 (18.6)	
Bill depth, post nares	M	17-22.5 (19.5)		20-24 (21.8)		17-21 (19.7)	
	F	16-18 (17.0)		18-21 (19.6)		17-19 (17.8)	
Wing	M	405-460 (435.0)		435-477 (459.1)		394-445 (422.6)	
	F	397-422 (410.6)		430-450 (439.0)		385-412 (400.5)	
Tarsus	M	60-74 (67.8)		69-77 (72.6)		65-76 (69.1)	
	F	57-66 (62.1)		64-73 (68.1)		62-69 (64.6)	
Tail	M	151-190 (175.2)		180-210 (196.6)		161-187 (177.7)	
	F	154-178 (165.3)		182-200 (188.1)		165-176 (171.1)	

^a worn.^b 19 males, 16 females; data from Dwight 1925.

A=Adult. J=Immature.

^c 11 males, 10 females; data from Dwight 1925.

M=Male.

^d 14 males, 11 females; data from Dwight 1925.

F=Female.

The parentage of this specimen is not clear. Although the pale mantle colour indicates that *hyperboreus* was involved, the primary pattern could result from crossing with *glaucescens* or (back-crossing?) with *argentatus*. The small bill suggests *argentatus* influence; other dimensions are within the range of *hyperboreus* or *glaucescens*.

Academy of Natural Sciences, Philadelphia (ANSP) No 37629. Male, collected Point Barrow, Alaska, 5 September 1897. This pale-mantled, heavy-billed gull, which shows a few traces of brown streaking on the head and occiput, is *hyperboreus* x *argentatus*. In size and mantle colour it is intermediate between those species. Its bill proportions more closely approximate those of *hyperboreus*, while the dark primary pattern (Fig.

1C) shows *argentatus* ancestry. Primaries 6-8 are newly moulted and are slate-grey; primary 9, which is still largely ensheathed, is much darker, approaching slatey-black. The still-unmoulted primary 10 is very pale and probably faded.

American Museum of Natural History (AMNH) No 752979. Female, collected San Geronimo Island, Baja California, Mexico, 18 March 1897. Superficially, this specimen appears to be a Glaucous Gull, but shows several differences that indicate hybrid ancestry: the mantle is darker; the primaries are greyish and have pattern visible on Nos 8-10 (Fig. 1F) and the dimensions are far smaller than *hyperboreus*. The ancestry of this specimen is indeterminable. Judging by primary pattern and coloration, I suspect it represents *glaucescens* x *hyperboreus*. However, similar patterns occur among *argentatus* x *hyperboreus* in Iceland, and the small dimensions also suggest *argentatus*.

National Museum of Canada (NMC) No 42558. Male, collected from breeding colony of Glaucous Gulls on island at mouth of Anderson River, NWT, Canada, 3 August 1955, by E. O. Höhn. Höhn (1959: 110) described the specimen, which fitted the description of *nelsoni*, as an "abnormally coloured individual [of *L. hyperboreus*] with black on the tips of several of the largest primaries . . ." I consider it *hyperboreus* x *argentatus*. Its dimensions are within the size range of either species, but are closer to those of *argentatus*, and its bill is relatively slender. The mantle colour, however, is very pale, as in *hyperboreus*, and the label indicates "soft parts exactly as other Glaucous Gulls from area." The grey-brown primary markings (Fig. 1A), although paler than those in the San Diego hybrid (Jehl 1971; Fig. 1B), are far more extensive than other examples of *nelsoni* and approach those of *argentatus*. In general the wing pattern is like that of *L. thayeri* and, as in that species, the undersides of the primaries are whitish. This specimen was taken at the treeline in northwestern Canada, an area where hybridization has been inferred by Ingolfsson (1970) and Jehl (1971), and confirmed by Spear (MS).

Immatures

Several unusually-plumaged immature gulls have been referred to *nelsoni*. Dwight (1906: 42) speculated that immatures would look much like *glaucescens*, but "ought to be much larger.". He identified 2 such specimens and noted that their bills were "very heavy;" another was reported by Saunders (1896). Dwight failed to recognize, however, that many individuals of *glaucescens* are as large as *hyperboreus*, and may be even heavier-billed. One of the immatures mentioned by Dwight (AMNH No 26234) could not be found. The other (AMNH No 61536), from Unalaska Island, Alaska, is *glaucescens* in first basic plumage. Its measurements are well within the range for that species and its bill is completely dark; in *argentatus*, and particularly in *hyperboreus*, immatures have a pink base to the bill.

Saunders (1896: 288) referred a female in first basic plumage (BM 58.21.136.4.3.4) from Vancouver Island to *nelsoni*. It is relatively small, falling into the lower edge of the range for *glaucescens* females, which it

resembles in plumage pattern and in the whitish undersides of the primaries. However, its general coloration, including the primaries and rectrices, is darker brown; the rectrices are uniformly dark and lack mottling on the outer rectrix; and the bill is extremely short and heavy. In these respects it is more like *occidentalis*, as Saunders also recognized, and probably represents *glaucescens* x *occidentalis*, a hybrid combination known from the Pacific northwest.

DISCUSSION

Six of 7 published specimens ascribed to Nelson's Gull are evidently hybrids (Table 2). Although the Siberian form of the Herring Gull (*L.h. vegae*) may have been represented in some of the early crosses, (Dwight 1925, Ingolfsson 1970), the recent expansion of Herring Gulls

TABLE 2
Identity of "Nelson's Gulls"

<i>Specimen No</i>	<i>Probable identification</i>
USNM 97253 (holotype)	<i>hyperboreus</i> x <i>argentatus</i>
ANSP 276692	<i>hyperboreus</i> x <i>argentatus</i>
NMC 42558	<i>hyperboreus</i> x <i>argentatus</i>
BMNH 51.9.10.2	<i>hyperboreus</i> x <i>argentatus</i> or <i>hyperboreus</i> x <i>glaucescens</i>
AMNH 975979	<i>hyperboreus</i> x <i>argentatus</i> or <i>hyperboreus</i> x <i>glaucescens</i>
AMNH 61536	<i>glaucescens</i>
BMNH 58.21.136.4.3.4	<i>glaucescens</i> x <i>occidentalis</i>

into western Alaska and northwestern Canada has also resulted in hybridization between the North America race (*L.a. smithsonianus*) and *L. hyperboreus* (Ingolfsson 1970, Jehl 1971, Spear MS). Ingolfsson reported (in litt.) that about 30 specimens from that area could be described as "nelsoni". In western Alaska, *L.a. smithsonianus* also hybridizes with *L. glaucescens* (Williamson & Peyton 1963, Patten & Weisbrod 1974). Elsewhere, hybridization between *hyperboreus* and *argentatus* has been described from Bear Island (Bertram & Lack 1933), western Europe and Iceland (Ingolfsson 1970).

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Jouanin's Petrel *Bulweria fallax*; a second record from Kenya

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Britton (1980) records a female *Bulweria fallax* captured alive in floating seaweed off Malindi, 3°13'S, 40°07'E, Kenya Coast, on 13 December 1953. A second living bird was captured in the same bay on 9 December 1985 by B. Boothroyd, but it died the next day. It was deep frozen and later submitted to the National Museum in Nairobi where the writer was able to examine and measure it in detail while it was being prepared as a cabinet specimen.

The specimen was briefly referred to by Gichuki (1985), but no mensural data were available for any specimens to Brown *et al.* (1982: 57), so these are now recorded for the specimen.

Reg. No B9346 in National Museum of Kenya. Male, skull not fully ossified. Testes, orange, small, 5 x 3 mm. Culmen black, 29 mm. Iris appeared dark brown or black. Wing (chord) 240 mm. Longest primary, 9th. Wing-span 83 cm. Tail wedge-shaped, central rectrice 127 mm. Tarsus, black, 32 mm. Toes, blackish with pink tinge, 35 mm (longest without claw). Plumage: head, back, tail and wings near Sepia (119); breast to belly, flanks Neutral Grey (82), throat slightly paler (colours from Smith 1975).

These measurements may be compared with those given by Brown *et al.*